

WE CLAIM

1. Apparatus for storing and/or transmitting a one-bit digital signal, the apparatus comprising:
  - an input inverter for inverting a subset of the data bits of an input one-bit digital signal, to generate a bit-inverted signal;
  - a storage and/or transmission medium for storing and/or transmitting said bit-inverted signal; and
  - an output inverter for inverting said subset of the data bits of said bit-inverted signal, to regenerate said input one-bit digital signal.
2. Apparatus according to claim 1, in which said storage and/or transmission medium is operable to store and/or transmit data words each having a predetermined number of data bits.
3. Apparatus according to claim 2, in which:
  - said storage and/or transmission medium is an AES/EBU standard digital audio recorder; and
  - said predetermined number of bits in each data word is 16 bits.
4. Apparatus according to claim 2, comprising:
  - a multiplexer for multiplexing data bits of the input one-bit signal into data words each having said predetermined number of data bits;
  - said input inverter being operable to invert a subset of data words output by said multiplexer, to form said bit-inverted signal.
5. Apparatus according to claim 4, in which said multiplexer is operable:
  - to multiplex said input one-bit digital signal into two bit streams respectively formed of alternate data bits of said input one-bit digital signal; and
  - to form data words from said bit streams, said data words for each bit stream comprising groups of successive bits of that bit stream.

6. Apparatus according to claim 4, in which said output inverter is operable to invert said subset of data words of said bit-inverted signal;

said apparatus comprising a demultiplexer for demultiplexing data words output by said output inverter, to regenerate said input one-bit digital signal.

7. Apparatus according to any one of the preceding claims, in which said subset of data bits of said input one-bit digital signal inverted by said input inverter comprises substantially one half of said data bits of the input one-bit digital signal.

8. Apparatus according to claim 1, in which said input inverter is operable to invert alternate data bits of said input one-bit digital signal.

9. Apparatus according to claim 1, in which said input inverter comprises:  
means for providing an inversion control signal having a signal state varying between two predetermined states; and

control logic operable to selectively invert data bits of said input one-bit digital signal in response to a current state of said inversion control signal.

10. Apparatus according to claim 9, in which:

said providing means comprises a shift register having a one-bit output fed back to an input of said shift register; and

said control logic comprises an exclusive-OR gate operable to combine a current bit output by said shift register with a current bit of said input one-bit digital signal.

11. Apparatus according to claim 1, in which said storage and/or transmission medium is operable to output a mute signal comprising successive data bits of the same data value if a storage, reproduction and/or transmission error, failure or cessation occurs.

12. Apparatus for formatting a one-bit digital signal for storage and/or transmission, said apparatus comprising an inverter for inverting a subset of the data

bits of an input one-bit digital signal, to generate a bit-inverted signal to be stored or transmitted.

13. Apparatus for receiving a one-bit digital signal after storage and/or transmission, said apparatus comprising an inverter for inverting a subset of the data bits of the received one-bit digital signal.

14. Apparatus according to claim 1, in which said input one-bit digital signal is a one-bit digital audio signal.

15. A method of storing and/or transmitting a one-bit digital signal, said method comprising the successive steps of:

- (i) inverting a subset of the data bits of an input one-bit digital signal, to generate a bit-inverted signal;
- (ii) storing and/or transmitting said bit-inverted signal; and
- (iii) inverting said subset of said data bits of said bit-inverted signal, to regenerate said input one-bit digital signal.